Water Reuse in the West

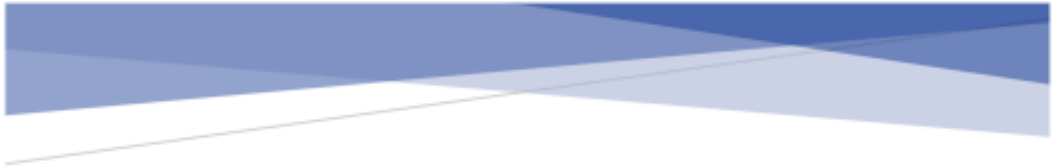
WESTERN STATE WATER REUSE GOVERNANCE AND PROGRAMS

Western States Water Council

Created by western governors in 1965, the WSWC's mission is "to ensure that the West has an adequate, secure and sustainable supply of water of suitable quality to meet its diverse economic and environmental needs now and in the future."

WSWC members are appointed by the governors, and are generally water quality managers, state engineers, attorneys general, and others with hands-on water resource administration experience.

Water Reuse in the West



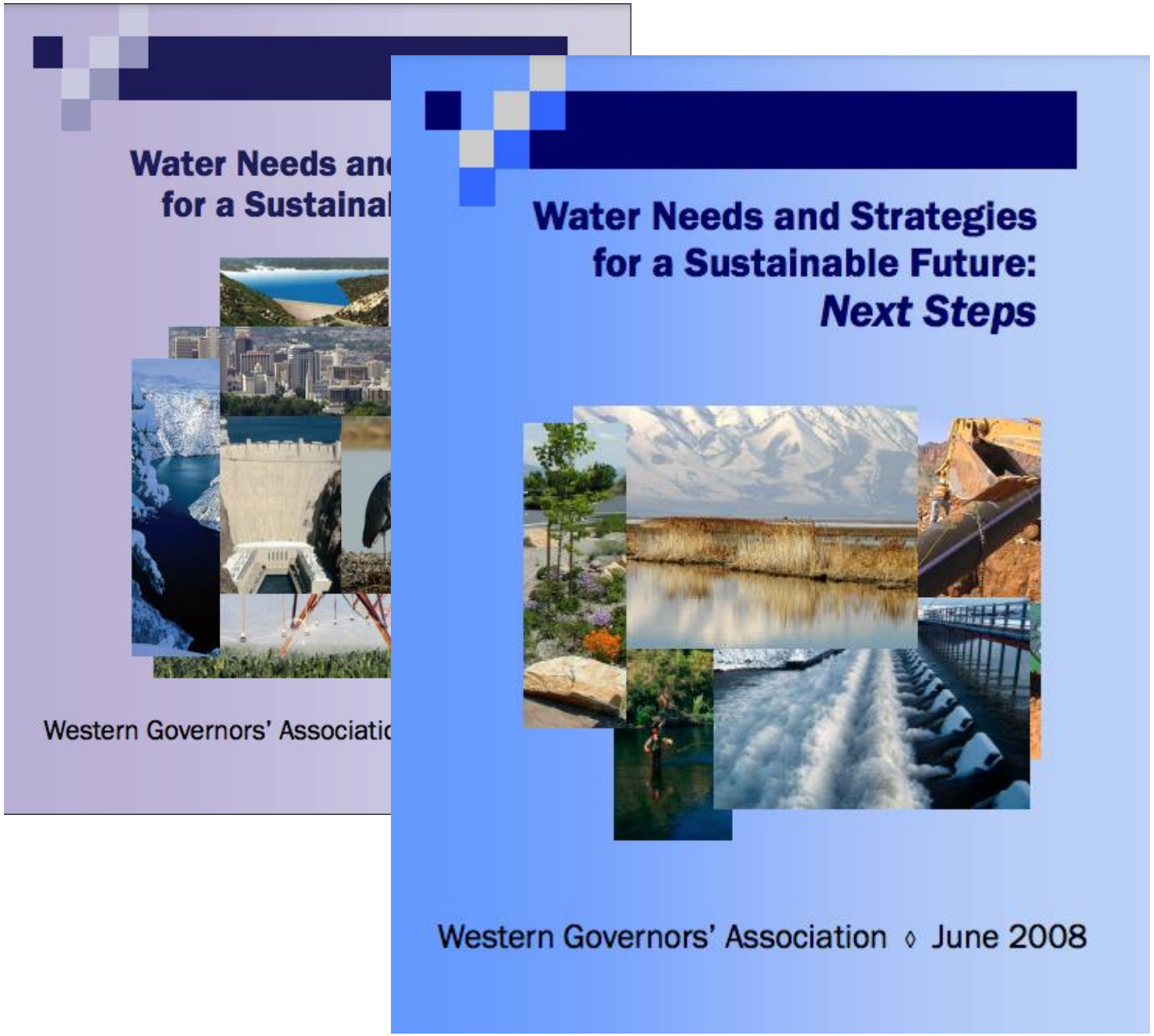
WATER REUSE IN THE WEST

Western State Water Reuse Governance and Programs

Western States Water Council
Compiled by Jessica Reimer and Michelle Bushman
June 2021

https://westernstateswater.org/wp-content/uploads/2019/05/FINAL_2021_WSWC_WaterReuseReport.pdf

Water Reuse in the West



Water Reuse in the West

WATER REUSE IN THE WEST:
STATE PROGRAMS AND INSTITUTIONAL ISSUES

A Report Compiled by the

Western States Water Council
Nathan S. Bracken, Legal Counsel

July 2011

https://westernstateswater.org/wp-content/uploads/2019/05/2011-Water-Reuse-Report-Final.pdf

National Water Reuse Action Plan

Improving the Security, Sustainability, and Resilience of Our Nation's Water Resources

Collaborative Implementation (Version 1)

February 2020

2.2 Policy Coordination

Federal, state, tribal, and local programs and policies can be aligned and coordinated to encourage consideration of water reuse.

Compile Existing State Policies and Approaches to Water Reuse (Action 2.2.1)

DESCRIPTION:
This compilation will build on prior efforts by Western Resource Advocates, Western States Water Council, EPA, WateReuse Association, and others.

ACTION LEADER(S):
- EPA—Jeff Lape
- WateReuse—Greg Fogel
- ACWA—Jake Adler
- ASDWA—Wendi Wilkes

PARTNER(S):
ASTHO, ECOS, WSWC, GWPC

"Exploring why resources, policies, and approaches vary (for example, across states or between federal programs), or how differences in seemingly-similar scenarios came to be (for example, what are the scientific bases of different fit for purpose specifications among similar types of reuse?), provide important contexts for end-users."
–ASDWA and ACWA

April 2020
Secure contractor support for facilitating/convening the primary collaborators and to determine the parameters and basic design of the ideal compilation.

July 2020
Facilitate meeting of collaborating organizations to determine roles, responsibilities, and logistics for developing the compilation.

December 2020
Using the established design, compile information about existing state water reuse statutes, regulations, policies, programs, frameworks, contacts, and terminology with a contractor.

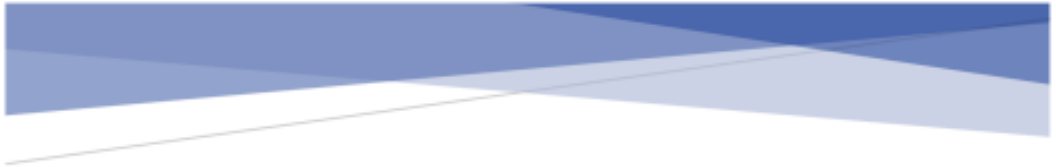
2019 — 2020 — 2021 — 2022

May 2020
Plan meeting with representatives of collaborating organizations to participate in initial scoping and design conversations.

August 2020
Develop a meeting summary report memorializing the development approach and attributes of the state compilation.

https://www.epa.gov/waterreuse/water-reuse-action-plan

Water Reuse in the West



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WESTERN STATES WATER COUNCIL

State Water Reuse Governance and Programs
WSWC & ACWA Survey 2020

This joint WSWC-ACWA survey is an effort to better understand the current status of water reuse from a state-level perspective. Our states have expressed an interest in learning from each other, as there are many different ways to approach water reuse. WSWC would like to update information from its 2011 survey report. This will both provide up-to-date details as well as enable states to evaluate what has changed over the last decade. As such, ACWA is partnering with WSWC to help advance state clean water programs' ability to address or implement water reuse and work towards their related clean water goals. As there is considerable overlap in the membership of our organizations, our members felt it would consume fewer resources to carry out a joint survey.

Please distribute the survey to your relevant agencies and return responses to WSWC or ACWA no later than April 30, 2020. Please feel free to include links to any information available online as appropriate.

Regulations and Standards

1. *Defining Reuse*: How does your state define water reuse and what types of water reuse are proposed/recognized/permitted, e.g. municipal, agricultural, industrial, oil and gas, etc., for potable and non-potable water?
2. *Governing Reuse*: (a) Please list any state statutes, regulations, guidance or other policies that govern (enable, encourage, or restrict) water reuse. (b) Please identify any federal statutes or regulations that inhibit water reuse and how those might be amended or rewritten. (c) Are there any aspects of water reuse that are unregulated?
3. *Water Supply*: (a) How does your state address or deal with water rights related to water reuse? (b) Does your state recognize water reuse as a "beneficial use"? (c) Who may retain/obtain a reuse water right and through what process?
4. *Water Quality*: (a) How does your state address potential organic contaminants, viral pathogens, chlorides, and other contaminants in reclaimed water for potable/non-potable reuse? (b) Has your state needed to align/adjust any policies or laws on drinking water and wastewater to enable potable reuse?
5. *Water Quality-Quantity Nexus*: (a) How is water reuse a part of any integrated state water plan or other planning process? (b) Has your state encountered tension between policies and laws governing water quality and water supply involving water reuse? (c) If so, how have you worked toward resolving those?

The 2010-2011 survey questions were modified slightly to include issues of concern that had emerged in the intervening decade.

Questions were sent out February 2020, and most responses were received by October 2020.

6. *Reuse Resources*: (a) Does your state work with other states, federal agencies, or non-governmental entities in developing reuse criteria and requirements? (b) How might your state benefit from interstate or federal guidance or financial/technical support related to water reuse? (c) Would you be willing to be a resource and share your experiences with other states?

Programs, Funding, and Projects

7. (a) What state agencies, departments, or other entities have jurisdiction or responsibilities over water reuse programs? (b) How many FTE staff are dedicated or partially dedicated to water reuse?
8. (a) Does the state provide financial assistance (e.g., grants, loans) for water reuse projects or activities? (b) If so, what are the eligibility criteria and what amounts are typically available?
9. (a) How does your state promote public outreach to encourage or alleviate fears/concerns about water reuse? (b) What are the greatest obstacles to public acceptance?
10. (a) Has your state experienced any negative (or positive) environmental, social, political, fiscal, or water resource effects from water reuse activities? (b) Are there other factors that inhibit or encourage water reuse?
11. Are there any considerations, factors, or concerns your state is working on that have not been raised by these questions?
12. Please provide a brief summary of the number and types of water reuse projects in your state. If your state maintains an inventory of water reuse projects, please provide a link or a copy.

Type of Reuse	Estimated # Projects in Operation	Annual Production Amount Permitted	# Projects Considered but Not Approved	# Projects Started but Ceased Operations

Water Reuse in the West

Defining Water Reuse

- Source water: municipal wastewater, stormwater, agricultural runoff/return flows, industrial cooling water, produced water from oil & gas extraction
- Treated to remove contaminants, to a level that is suitable for the subsequent intended water use.
- Uses: agriculture, aquifer recharge, municipal supply, environmental restoration, dust control, parks and golf courses, alternative supply when high quality potable water isn't required
- Planned (well-regulated system) vs. Unplanned (downstream reuse with the kiss of nature)
- States that define water reuse
  - Reclaimed water: AZ, CO, MT, NV, NM, OK, OR, TX, WA
  - Recycled water: CA, ID, OR
  - Reuse: NM, ND, TX, UT
  - Treated wastewater: WY

Water Reuse in the West

Primary Concerns/Barriers to Reuse

- Having the statutes, regulations, and permitting/ monitoring/enforcement procedures in place to adequately protect
  - existing water rights and
  - human health and the environment
- Public perceptions of reused water (ongoing public outreach and stakeholder engagement)
- Agency staff time and resources
  - processing applications and compliance
  - keeping abreast of the best science on emerging contaminants
- Funding more reuse projects

Water Reuse in the West

Protecting Existing Water Rights

- Beneficial Use
  - "Beneficial use shall be the basis, the measure and limit of the right to use water at all times…" (Wyo. Stat. Ann. §41-3-101)
  - States where reuse is recognized as beneficial use of water rights: AZ, CO, ID, KS, NE, NV, ND, OK, OR, WA, WY
  - Other states simply require that reclaimed/recycled water be put to a recognized beneficial use (e.g., MT, NM, TX, UT)
- Prior Appropriations (and instream flows)
  - Allocations specific to a location, a time of the year, a max/min volume/flow rate, and purpose of use
  - First in time (diversion/administrative application), first in right (senior rights 100% fulfilled before any junior rights)
- State of Washington
  - Application for reuse project
  - Impairment analysis (state engineer/hydrogeologist)
  - Detailed compensation & mitigation proposals
  - Lack of statutory/regulatory process to guide the evaluation of those compensation-mitigation proposals
  - If reuse project approved, owner is granted exclusive rights to that water, with reuse activities exempt from water rights permitting
  - Ongoing debate re: how to permit increased consumptive use and downstream impacts to existing water rights

Water Reuse in the West

Water Quality Standards

- Fit-for-purpose treatment requirements
- States with specific classifications/categories of reuse, based on post-treatment human contact/exposure: AZ, CO, ID, MT, NV, NM, OK, OR, TX, UT, WA, WY
- Movement toward direct potable reuse (DPR) and indirect potable reuse (IPR)
  - States with (or developing) regulations/guidance: AZ, CA, CO, ID, NV, NM, OK, TX, WA
  - States with projects: TX, OR, AZ
- Produced water reuse: WY, NM, OK
  - New Mexico Water Consortium (https://nmpwrc.nmsu.edu/): roughly 42 billion gallons (155,000 acre-feet) per year, a little more than twice the annual consumption of Albuquerque.
- Several states have expressed concerns about emerging contaminants in treated wastewater (or produced water) and having adequate time/resources to stay on top of the best available science and set appropriate standards

Water Reuse in the West

Public Perceptions/Stakeholder Engagement

- Kiss of nature vs. taint of technology ("toilet to tap")
  - Potable reuse vs. non-potable or non-human contact reuse
- Limited Supply and Competing Uses
  - Recurring/ongoing drought (growing awareness)
  - Population growth
  - Environmental restoration
  - Economic prosperity (local jobs, water-consumptive industries)
- Stakeholder engagement
  - Community grassroots efforts, specific projects that meet specific needs, addressing specific concerns, developing the standards and rules—ownership of the process vs. "black box" of government imposition
  - Education, outreach, websites, classrooms

Water Reuse in the West

Funding

- Funding projects
  - Clean Water/Drinking Water SRFs or USDA funds
  - Private funds (industry/rate payers/beneficiaries)
  - State funds
    - AZ : Water Infrastructure Finance Authority
    - CA: Water Recycling Funding Program
    - CO : Colorado Water Conservation Board (grants/loans)
    - ID : State planning grants
    - NM : Water Trust Fund
    - TX : Texas Water Development Board water reuse program (grants/loans)
    - WA : Centennial Clean Water Grants
    - WY : Wyoming Water Development Commission, also separate grants/loans
- Funding staff
  - Less than 1 dedicated FTE: AK, KS, MT, NE, NV, ND, SD, UT, WY
  - 1-2 FTEs: AZ, CO
  - 3-6 FTEs: NM, OR, TX, WA
  - 12 FTEs: ID
  - 30+ FTEs: CA, OK*

*OK has 46 FTEs for all permitting/enforcement work, which includes water reuse as needed; none are dedicated exclusively to reuse

Questions?

https://westernstateswater.org/

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